



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101**

Reply To
Attn Of: MGREPOGR
OEA-095

February 18, 2004

MEMORANDUM

SUBJECT: Technical Issues with Pesticide/PCB Aroclors Data for Round 1 Tissue Samples
FROM: Ginna Grepo-Grove, Chemist, QA Office, OEA

Background

The Portland Harbor Round I Quality Assurance Plan states that EPA shall perform a full data validation of the first sample delivery group for each suite of parameters analyzed and depending on the problems and other issues encountered, EPA will specify the level of validation that will be conducted for the rest of the samples analyzed.

For the Round 1 sampling event, approximately 129 tissue samples were collected and analyzed for pesticides and PCB Aroclors. EPA performed a full data validation on the first sample delivery group consisting of 23 fish tissue samples. In the EPA's validation report, several technical issues were identified. LWG was informed of the issues and EPA QA asked them to work with the pest/PCB laboratory, Columbia Analytical Services, Inc. (CAS), to resolve the issues.

Since the same technical issues may be present in all of the tissue pesticides/PCB Aroclor analyses, the EPA validation report and a letter of transmittal dated October 23, 2003, was sent by EPA to LWG (via Striplin- see enclosure). The letter asked LWG to perform the following tasks on all remaining Round 1 tissue samples analyzed for Pesticides and PCB Aroclors:

- full validation;
- check the validity of the detection of PCB Aroclors (or mixtures of PCB Aroclors), DDT and its metabolites and some single-component pesticides;
- evaluate co-elution of single-component pesticides; and
- the SVOC lab shall conduct a reverse search of SVOC TICs for samples with high concentration (ppm levels) detections of DDT and its metabolites and PCBs.

To clarify the validation tasks identified by EPA for LWG, a telephone discussion with Maja Tritt on November 18th and a meeting with Laura Jones and Maja Tritt on November 25th followed to discuss the technical issues stated in the validation report. At that point in time, the following additional issues (not covered by the transmittal letter) were EPA QA's concerns:

- (1) in the data package that EPA reviewed, 2 samples had DDT and metabolites that were reported at concentration levels (ppm) detectable by GC/MS. No GC/MS spectra comparing the

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sample with the DDT/metabolite standard for confirmation could be obtained from the laboratory. It is customary and a good laboratory practice for the pesticide/PCB laboratory to confirm high levels of pest/PBCs by GC/MS to determine if the identified peak is a real target compound and/or a laboratory contamination. Striplin was asked by EPA to work with their lab and get the spectra for those two samples. At the meeting, EPA also instructed Striplin to do the same thing for the rest of the samples with significant detections of DDTs and Aroclors, i.e., check and confirm the detections with GC/MS spectral matches.

(2) mixture of PCB Aroclors are present in most of the samples and chromatograms have to be evaluated carefully due to the co-elution of some of the single-component pesticides (which includes DDTs and metabolites) with the Aroclor PCB peaks due to the compounds' similar chemical properties. There is a high probability that false positives and/or false negatives exist in the reported results. Striplin was asked by EPA to ensure that all of the sample chromatograms for pesticides and PCB analyses were reviewed thoroughly and that data were properly qualified during the data validation process.

Based on the Lower Willamette Group Round I data Validation Issues letter dated January 6, 2004, received by EPA the week of January 26th, LWG did additional QA work on two samples, LWG0107R006TSSPWBC00 and LWG0108R001TSSPWBC00 to confirm the presence of DDT and its metabolites. LWG also agreed with EPA on the potential co-elution of some pesticides with Aroclor peaks. LWG also agreed to evaluate the pesticide analyses chromatograms for all Round I tissue samples and apply additional qualifiers to the data based on PCB interferences (full data validation).

GC/MS Confirmation:

To save money and effort, a reverse search of the GC/MS spectra for the detected DDT and metabolites for the two fish tissue samples, i.e., LWG0107R006TSSPWBC00 and LWG0108R001TSSPWBC00, were performed by ARI using their SVOC extracts. The following were the results:

Sample Number	4,4'-DDD	Conf	4,4'-DDE	Conf	4,4'-DDT	Conf	2,4'-DDT	Conf
LWG0107R006TSSPWBC00	350 ppb	Yes	800 ppb	Yes	2000 ppb	Yes	400	?
LWG0108R001TSSPWBC00	140	No	170	?	14000	No	2700	?

Except for 2,4-DDT, the DDT and other metabolites in sample LWG0107R006TSSPWBC00 were confirmed by the GC/MS with concentrations comparable with those of CAS'. 2,4'-DDT still needs to be confirmed for this sample.

Tissue sample LWG0108R001TSSPWBC00: Striplin (now Integral) mentioned during the meeting (Nov 25th) that ARI could not pull the spectra for this sample because the peaks were not even found in their SVOC extract. EPA instructed LWG to get the pesticide extract from CAS and ask ARI to analyze the sample by GC/MS Method 8270 and pull the spectra for DDT and its metabolites. CAS' response: the pesticide extracts are gone (discarded?). It is not clear if only the extract for this sample was discarded or all of the pesticides extracts were discarded by CAS. This needs to be verified.

Because the initial pesticide extract was unavailable, the sample was re-extracted and re-analyzed by CAS for pesticide, using sample aliquot from the same bottle. In the re-analysis, 4,4-DDT was detected at

54 ug/Kg which is about 250x lower than the 14000 ug/Kg concentration initially reported and posted on LWG's web site. None of the DDT metabolites were detected in the re-analysis. In this January 6, 2004, letter, Integral proposes to report the lower value 54 ug/Kg and reject the initial run for sample LWG0108R001TSSPWBC00.

EPA's response:

EPA does not agree with this proposal for the following reasons (1) the Portland Harbor site has a potential source of DDT and metabolites; and (2) the TRV for total DDT that will be used for human health risk calculation is 3.5 ug/Kg and for food web modeling is 14.7 ug/Kg and most of the tissue samples significantly exceeded these TRVs.

Because of what happened to sample LWG0108R001TSSPWBC00's initial and re-analysis results, the following questions still remain unanswered: (1) if the DDT and metabolite peaks detected during initial analysis were not target compounds, what are they and where did they come from; (2) why were the pesticide extracts discarded by the lab when the data is not yet final (3) there is a possibility that the peaks detected during initial pesticide analysis were laboratory contamination, if they are, how will the contamination affect the other tissue samples that have detections of DDT and its metabolites; (4) what about the possibility of sample switching - it is possible that CAS used different samples for the initial and re-analysis, and (5) how reliable are the rest of the pesticide data reported and posted on the web?

Recommendations:

(1) Because the TRVs that will be used for risk calculations are low, it is to LWG's best interest to confirm the presence and concentrations of DDT and its metabolites for all tissue samples using GC/MS. Spectra of each detected DDT species should be pulled, compared with the standard and submitted to EPA for review. To save in cost, confirmatory runs can be done two ways; (1) using the SVOC run, do a reverse search for DDT and its metabolites- limitations: SVOC runs have a lot of interfering organic compounds and therefore only DDTs at ≥ 500 ug/Kg shall be detected (2) to verify detection lower than 500 ug/Kg, it is recommended that LWG use the SVOC extracts, clean the extracts using GPC (to remove organic compounds with molecular weight >1000), isolate DDTs and metabolites from the Aroclors (using silica gel fractionation techniques) and analyze the extracts using GC/MS.

(2) To further verify the detections of DDT and metabolites and the concentrations reported by LWG for the tissue samples Round 1 sampling, EPA proposes to obtain 30 archived tissue samples from LWG and analyzed these samples for DDTs and metabolites using full scan GC/MS Method 8270 at the EPA Manchester laboratory. The list of tissue samples is attached. Twenty-one of the tissue samples listed for re-analysis have detections of DDT and metabolites at ≥ 200 ppb and nine had levels ranging form 50-100 ppb. All of the samples listed have PCB Aroclor detections ≥ 1 ppm. Turn around time: If the EPA lab has the samples by Monday, 2/23/04, and if the QA Office will do the validation, results will be available to EPA by the end of March. The final report and other deliverables will be submitted at a later date.

PCB/Aroclor Issues - None. PCB congeners were also analyzed for the tissue samples. Total Aroclors will be compared with the total PCB congener data.

a_chemtiss.Stat	Sample	Species	Tissue	Chemical	Result (c)	Qualifie	Units	Station description	Latitude
02R001SP	C00	sculpin	whole body	Aroclor 1260	430	J	ug/kg	River mile 03	45.627913
02R015SP	C00	sculpin	whole body	Aroclor 1260	760	D	ug/kg	River mile 03	45.629232
02R001SP	C00	sculpin	whole body	Aroclor 1248	1900	J	ug/kg	River mile 03	45.627913
02R015SP	C00	sculpin	whole body	Aroclor 1248	2600	D	ug/kg	River mile 03	45.629232
03R005CR	C00	crayfish	whole body	Aroclor 1260	280	D	ug/kg	River mile 04	45.611144
03R005SP	C00	sculpin	whole body	Aroclor 1260	230	D	ug/kg	River mile 04	45.611001
03R034SP	C00	sculpin	whole body	Aroclor 1260	310	D	ug/kg	River mile 04	45.611642
03R014Zo	C00	smallmouth bass	whole body	Aroclor 1260	320	D	ug/kg	River mile 04	45.619841
03R014Zo	C00	smallmouth bass	whole body	Aroclor 1248	460	D	ug/kg	River mile 04	45.619841
03R014Zo	C10	largescale sucker	whole body	Aroclor 1260	620	J	ug/kg	River mile 04	45.619841
03R014Zo	C10	largescale sucker	whole body	Aroclor 1248	1400	J	ug/kg	River mile 04	45.619841
03R014Zo	C10	northern pikeminnow	whole body	Aroclor 1260	560	D	ug/kg	River mile 04	45.619841
04R023Zo	C10	smallmouth bass	whole body	Aroclor 1248	400	D	ug/kg	River mile 04	45.60716:
04R023Zo	C10	smallmouth bass	whole body	Aroclor 1260	880	PD	ug/kg	River mile 04	45.60716:
03R014Zo	C20	northern pikeminnow	whole body	Aroclor 1260	220	D	ug/kg	River mile 04	45.619841
04R023Zo	C20	smallmouth bass	whole body	Aroclor 1248	220	D	ug/kg	River mile 04	45.60716:
04R023Zo	C20	smallmouth bass	whole body	Aroclor 1260	250	D	ug/kg	River mile 04	45.60716:
04R023Zo	C30	smallmouth bass	whole body	Aroclor 1248	250	D	ug/kg	River mile 04	45.60716:
04R023Zo	C30	smallmouth bass	whole body	Aroclor 1260	340	PD	ug/kg	River mile 04	45.60716:
05R006Zo	C00	northern pikeminnow	whole body	Aroclor 1260	280	D	ug/kg	River mile 05	45.595463
05R006Zo	C00	smallmouth bass	whole body	Aroclor 1260	270	PD	ug/kg	River mile 05	45.595463
FZ0306Zo	C10	carp	fillet	Aroclor 1260	490	D	ug/kg	River mile 05	45.605996
03R004SP	C10	sculpin	whole body	Aroclor 1248	240	D	ug/kg	River mile 05	45.606590
FZ0306Zo	C20	carp	whole body	Aroclor 1260	6500	J	ug/kg	River mile 05	45.605996
03R004SP	C20	sculpin	whole body	Aroclor 1248	220	D	ug/kg	River mile 05	45.606590
FZ0306Zo	C30	carp	fillet	Aroclor 1248	410	D	ug/kg	River mile 05	45.605996
FZ0306Zo	C30	carp	fillet	Aroclor 1260	650	D	ug/kg	River mile 05	45.605996
06R004SP	C00	sculpin	whole body	Aroclor 1260	400	J	ug/kg	River mile 07	45.576130
06R024Zo	C00	smallmouth bass	whole body	Aroclor 1260	240	D	ug/kg	River mile 07	45.583737
06R002SP	C10	sculpin	whole body	Aroclor 1260	600	J	ug/kg	River mile 07	45.58070:
06R002SP	C20	sculpin	whole body	Aroclor 1260	2300	D	ug/kg	River mile 07	45.58070:
07R009Zo	C00	largescale sucker	whole body	Aroclor 1260	1400	D	ug/kg	River mile 08	45.575776
07R009Zo	C00	northern pikeminnow	whole body	Aroclor 1260	1800	D	ug/kg	River mile 08	45.575776
07R006SP	C00	sculpin	whole body	Aroclor 1248	290	D	ug/kg	River mile 08	45.571547
FZ0609Zo	C10	brown bullhead	whole body	Aroclor 1260	1700	D	ug/kg	River mile 08	45.566746
FZ0609Zo	C10	carp	whole body	Aroclor 1260	690	D	ug/kg	River mile 08	45.566746
FZ0609Zo	C10	carp	fillet	Aroclor 1260	1200	J	ug/kg	River mile 08	45.566746

07R009Zo	C10	smallmouth bass	whole body	Aroclor 1260	430	D	ug/kg	River mile 08	45.575776
FZ0609Zo	C20	brown bullhead	fillet	Aroclor 1260	1300	J	ug/kg	River mile 08	45.566746
FZ0609Zo	C20	carp	fillet	Aroclor 1260	230	P	ug/kg	River mile 08	45.566746
FZ0609Zo	C20	carp	whole body	Aroclor 1248	270	D	ug/kg	River mile 08	45.566746
FZ0609Zo	C20	carp	whole body	Aroclor 1260	740	D	ug/kg	River mile 08	45.566746
FZ0609Zo	C30	brown bullhead	whole body	Aroclor 1260	250	J	ug/kg	River mile 08	45.566746
FZ0609Zo	C30	brown bullhead	fillet	Aroclor 1260	560	D	ug/kg	River mile 08	45.566746
FZ0609Zo	C30	carp	whole body	Aroclor 1260	1100	D	ug/kg	River mile 08	45.566746
FZ0609Zo	C30	carp	fillet	Aroclor 1260	1200	J	ug/kg	River mile 08	45.566746
07R009Zo	C30	smallmouth bass	whole body	Aroclor 1260	370	J	ug/kg	River mile 08	45.575776
07R009Zo	C30	smallmouth bass	whole body	Aroclor 1248	410	J	ug/kg	River mile 08	45.575776
09R006Zo	C00	largescale sucker	whole body	Aroclor 1248	300	D	ug/kg	River mile 09	45.557048
08R010Zo	C00	largescale sucker	whole body	Aroclor 1260	320	D	ug/kg	River mile 09	45.566689
09R006Zo	C00	largescale sucker	whole body	Aroclor 1260	430	D	ug/kg	River mile 09	45.557048
08R010Zo	C00	northern pikeminnow	whole body	Aroclor 1260	670	D	ug/kg	River mile 09	45.566689
09R006Zo	C00	northern pikeminnow	whole body	Aroclor 1260	840	D	ug/kg	River mile 09	45.557048
08R003SP	C00	sculpin	whole body	Aroclor 1260	480	J	ug/kg	River mile 09	45.566892
09R001SP	C00	sculpin	whole body	Aroclor 1260	510	J	ug/kg	River mile 09	45.561886
08R032Zo	C00	smallmouth bass	whole body	Aroclor 1248	220	J	ug/kg	River mile 09	45.565711
09R006Zo	C00	smallmouth bass	whole body	Aroclor 1248	340	J	ug/kg	River mile 09	45.557048
09R006Zo	C00	smallmouth bass	whole body	Aroclor 1260	500	J	ug/kg	River mile 09	45.557048
08R032Zo	C00	smallmouth bass	whole body	Aroclor 1260	660	J	ug/kg	River mile 09	45.565711
08R010Zo	C10	smallmouth bass	whole body	Aroclor 1260	4500	J	ug/kg	River mile 09	45.566689
08R010Zo	C20	smallmouth bass	whole body	Aroclor 1260	3300	J	ug/kg	River mile 09	45.566689
08R010Zo	C30	smallmouth bass	whole body	Aroclor 1260	1000	D	ug/kg	River mile 09	45.566689
09R002SP	C00	sculpin	whole body	Aroclor 1260	670	D	ug/kg	River mile 10	45.549092

a_chemtis: Sample	Lab Rep	Sample Ty	Species	Tissue	Method	CAS Numt	Chemical	Result (cor	Qualifier(s)	Units	Status
03R004SP C20		FR2	sculpin	whole body	SW8081A		4,4'-DDT	50 D		ug/kg	new
04R023Zo C30		FR3	smallmouth	whole body	SW8081A		4,4'-DDT	50 J		ug/kg	new
07R006CR C00		RFS	crayfish	whole body	SW8081A		4,4'-DDE	51 D		ug/kg	new
09R001SP C00		RFS	sculpin	whole body	SW8081A		4,4'-DDT	51		ug/kg	new
08R010Zo C10		RFS	smallmouth	whole body	SW8081A		2,4'-DDD	52		ug/kg	new
07R009Zo C10		RFS	smallmouth	whole body	SW8081A		4,4'-DDD	53		ug/kg	new
08R010Zo C00		RFS	northern p	whole body	SW8081A		4,4'-DDT	53		ug/kg	new
FZ0609Zo C20		FR2	brown bull	whole body	SW8081A		4,4'-DDE	53 J		ug/kg	new
03R004SP C10		RFS	sculpin	whole body	SW8081A		4,4'-DDT	54 D		ug/kg	new
FZ0609Zo C20		FR2	carp	whole body	SW8081A		4,4'-DDD	55		ug/kg	new
07R009Zo C20		FR2	smallmouth	whole body	SW8081A		4,4'-DDD	56		ug/kg	new
FZ0609Zo C30		FR3	brown bull	whole body	SW8081A		4,4'-DDE	58		ug/kg	new
06R002SP C10		RFS	sculpin	whole body	SW8081A		4,4'-DDT	61		ug/kg	new
03R014Zo C00		RFS	smallmouth	whole body	SW8081A		4,4'-DDT	62		ug/kg	new
08R010Zo C00		RFS	largescale	whole body	SW8081A		2,4'-DDD	62 P		ug/kg	new
FZ0609Zo C20		FR2	carp	whole body	SW8081A		4,4'-DDT	62		ug/kg	new
08R010Zo C20		FR2	smallmouth	whole body	SW8081A		4,4'-DDE	66 P		ug/kg	new
FZ0609Zo C10		RFS	black crappie	whole body	SW8081A		4,4'-DDE	67 D		ug/kg	new
05R006Zo C00		RFS	smallmouth	whole body	SW8081A		4,4'-DDT	68 J		ug/kg	new
07R006SD C00		RFS	clam	body witho	SW8081A		2,4'-DDT	70 D		ug/kg	new
FZ0306Zo C20		FR2	brown bull	whole body	SW8081A		4,4'-DDE	70 D		ug/kg	new
FZ0609Zo C20		FR2	carp	fillet	SW8081A		4,4'-DDD	70		ug/kg	new
02R001SP C00		RFS	sculpin	whole body	SW8081A		4,4'-DDT	72		ug/kg	new
03R005SP C00		RFS	sculpin	whole body	SW8081A		4,4'-DDT	75 D		ug/kg	new
07R003SP C00		RFS	sculpin	whole body	SW8081A		2,4'-DDT	78 D		ug/kg	new
03R014Zo C10		RFS	largescale	whole body	SW8081A		4,4'-DDT	79		ug/kg	new
03R014Zo C10		RFS	largescale	whole body	SW8081A		2,4'-DDT	79		ug/kg	new
05R006Zo C00		RFS	largescale	whole body	SW8081A		4,4'-DDE	79 D		ug/kg	new
07R009Zo C30		FR3	smallmouth	whole body	SW8081A		4,4'-DDT	79		ug/kg	new
09R006Zo C00		RFS	smallmouth	whole body	SW8081A		4,4'-DDT	79		ug/kg	new
FZ0609Zo C10		RFS	carp	fillet	SW8081A		4,4'-DDE	79 J		ug/kg	new
09R002SP C00		RFS	sculpin	whole body	SW8081A		2,4'-DDT	81 J		ug/kg	new
09R002SP C00		RFS	sculpin	whole body	SW8081A		4,4'-DDT	81		ug/kg	new
FZ0306Zo C10		RFS	carp	whole body	SW8081A		4,4'-DDE	81 J		ug/kg	new
08R010Zo C00		RFS	northern p	whole body	SW8081A		4,4'-DDE	82		ug/kg	new
08R010Zo C00		RFS	largescale	whole body	SW8081A		2,4'-DDT	87		ug/kg	new
FZ0306Zo C20		FR2	carp	fillet	SW8081A		4,4'-DDE	87 J		ug/kg	new

a_station	Station des	Latitude	Longitude
03R004SP	River mile	45.60659	-122.780
04R023Zo	River mile	45.60717	-122.783
07R006CR	River mile	45.57155	-122.743
09R001SP	River mile	45.56189	-122.709
08R010Zo	River mile	45.56669	-122.717
07R009Zo	River mile	45.57578	-122.744
08R010Zo	River mile	45.56669	-122.717
FZ0609Zo	River mile	45.56675	-122.729
03R004SP	River mile	45.60659	-122.780
FZ0609Zo	River mile	45.56675	-122.729
07R009Zo	River mile	45.57578	-122.744
FZ0609Zo	River mile	45.56675	-122.729
06R002SP	River mile	45.58071	-122.747
03R014Zo	River mile	45.61984	-122.791
08R010Zo	River mile	45.56669	-122.717
FZ0609Zo	River mile	45.56675	-122.729
08R010Zo	River mile	45.56669	-122.717
FZ0609Zo	River mile	45.56675	-122.729
05R006Zo	River mile	45.59546	-122.775
07R006SD	River mile	45.57163	-122.743
FZ0306Zo	River mile	45.6059:	-122.782
FZ0609Zo	River mile	45.56675	-122.729
02R001SP	River mile	45.62791	-122.787
03R005SP	River mile	45.61100	-122.775
07R003SP	River mile	45.56951	-122.740
03R014Zo	River mile	45.61984	-122.791
03R014Zo	River mile	45.61984	-122.791
05R006Zo	River mile	45.59546	-122.775
07R009Zo	River mile	45.57578	-122.744
09R006Zo	River mile	45.55705	-122.715
FZ0609Zo	River mile	45.56675	-122.729
09R002SP	River mile	45.54909	-122.705
09R002SP	River mile	45.54909	-122.705
FZ0306Zo	River mile	45.6059:	-122.782
08R010Zo	River mile	45.56669	-122.717
08R010Zo	River mile	45.56669	-122.717
FZ0306Zo	River mile	45.6059:	-122.782

FZ0306Zo C20	FR2	carp	whole body SW8081A	4,4'-DDD	87	ug/kg	new
FZ0609Zo C30	FR3	carp	whole body SW8081A	4,4'-DDE	87	ug/kg	new
07R003SP C00	RFS	sculpin	whole body SW8081A	4,4'-DDD	90 D	ug/kg	new
FZ0609Zo C20	FR2	brown bullt fillet	SW8081A	4,4'-DDT	91 P	ug/kg	new
07R009Zo C00	RFS	largescale	whole body SW8081A	4,4'-DDE	92	ug/kg	new
03R014Zo C20	FR2	largescale	whole body SW8081A	4,4'-DDE	93	ug/kg	new
FZ0609Zo C30	FR3	carp	fillet SW8081A	4,4'-DDE	94	ug/kg	new
02R001SP C00	RFS	sculpin	whole body SW8081A	4,4'-DDE	95 P	ug/kg	new
FZ0609Zo C20	FR2	black crappi	whole body SW8081A	4,4'-DDE	95 D	ug/kg	new
07R006SP C00	RFS	sculpin	whole body SW8081A	2,4'-DDD	96 D	ug/kg	new
08R010Zo C30	FR3	smallmoutt	whole body SW8081A	4,4'-DDE	96 P	ug/kg	new
FZ0609Zo C10	RFS	carp	fillet SW8081A	4,4'-DDT	96 J	ug/kg	new
08R032Zo C00	RFS	smallmoutt	whole body SW8081A	4,4'-DDT	97	ug/kg	new
02R001SP C00	RFS	sculpin	whole body SW8081A	2,4'-DDT	100 P	ug/kg	new
04R023Zo C10	RFS	smallmoutt	whole body SW8081A	4,4'-DDT	100 J	ug/kg	new
07R006SD C00	RFS	clam	body witho SW8081A	2,4'-DDD	100 D	ug/kg	new
04R023Zo C30	FR3	smallmoutt	whole body SW8081A	4,4'-DDE	110 J	ug/kg	new
05R006Zo C00	RFS	peamouth	whole body SW8081A	4,4'-DDE	110 D	ug/kg	new
06R024Zo C00	RFS	smallmoutt	whole body SW8081A	4,4'-DDE	110 J	ug/kg	new
07R009Zo C00	RFS	northern pi	whole body SW8081A	2,4'-DDT	110 P	ug/kg	new
08R010Zo C00	RFS	peamouth	whole body SW8081A	4,4'-DDE	110 D	ug/kg	new
FZ0306Zo C10	RFS	carp	fillet SW8081A	4,4'-DDE	110 J	ug/kg	new
FZ0609Zo C20	FR2	carp	fillet SW8081A	4,4'-DDE	110	ug/kg	new
FZ0609Zo C30	FR3	carp	fillet SW8081A	4,4'-DDT	110	ug/kg	new
FZ0609Zo C30	FR3	carp	whole body SW8081A	4,4'-DDT	110	ug/kg	new
02R015SP C00	RFS	sculpin	whole body SW8081A	4,4'-DDT	120	ug/kg	new
03R014Zo C00	RFS	peamouth	whole body SW8081A	4,4'-DDE	120 D	ug/kg	new
05R006Zo C00	RFS	smallmoutt	whole body SW8081A	4,4'-DDE	120 J	ug/kg	new
07R006SD C00	RFS	clam	body witho SW8081A	4,4'-DDE	120 D	ug/kg	new
07R009Zo C00	RFS	northern pi	whole body SW8081A	4,4'-DDT	120	ug/kg	new
07R009Zo C30	FR3	smallmoutt	whole body SW8081A	4,4'-DDD	120	ug/kg	new
08R010Zo C30	FR3	smallmoutt	whole body SW8081A	4,4'-DDT	120	ug/kg	new
07R006SD C00	RFS	clam	body witho SW8081A	4,4'-DDT	130 D	ug/kg	new
08R010Zo C10	RFS	smallmoutt	whole body SW8081A	4,4'-DDE	130 P	ug/kg	new
09R006Zo C00	RFS	largescale	whole body SW8081A	4,4'-DDE	130	ug/kg	new
FZ0306Zo C20	FR2	carp	whole body SW8081A	2,4'-DDD	130	ug/kg	new
FZ0306Zo C30	FR3	carp	whole body SW8081A	4,4'-DDE	130 J	ug/kg	new
FZ0609Zo C10	RFS	brown bullt	whole body SW8081A	4,4'-DDT	130	ug/kg	new

FZ0306Zo	River mile	45.6059:	-122.782
FZ0609Zo	River mile	45.56675	-122.729
07R003SP	River mile	45.56951	-122.740
FZ0609Zo	River mile	45.56675	-122.729
07R009Zo	River mile	45.57578	-122.744
03R014Zo	River mile	45.61984	-122.791
FZ0609Zo	River mile	45.56675	-122.729
02R001SP	River mile	45.62791	-122.787
FZ0609Zo	River mile	45.56675	-122.729
07R006SP	River mile	45.57155	-122.743
08R010Zo	River mile	45.56669	-122.717
FZ0609Zo	River mile	45.56675	-122.729
08R032Zo	River mile	45.56571	-122.730
02R001SP	River mile	45.62791	-122.787
04R023Zo	River mile	45.60717	-122.783
07R006SD	River mile	45.57163	-122.743
04R023Zo	River mile	45.60717	-122.783
05R006Zo	River mile	45.59546	-122.775
06R024Zo	River mile	45.58374	-122.762
07R009Zo	River mile	45.57578	-122.744
08R010Zo	River mile	45.56669	-122.717
FZ0306Zo	River mile	45.6059:	-122.782
FZ0609Zo	River mile	45.56675	-122.729
FZ0609Zo	River mile	45.56675	-122.729
FZ0609Zo	River mile	45.56675	-122.729
02R015SP	River mile	45.62923	-122.786
03R014Zo	River mile	45.61984	-122.791
05R006Zo	River mile	45.59546	-122.775
07R006SD	River mile	45.57163	-122.743
07R009Zo	River mile	45.57578	-122.744
07R009Zo	River mile	45.57578	-122.744
08R010Zo	River mile	45.56669	-122.717
07R006SD	River mile	45.57163	-122.743
08R010Zo	River mile	45.56669	-122.717
09R006Zo	River mile	45.55705	-122.715
FZ0306Zo	River mile	45.6059:	-122.782
FZ0306Zo	River mile	45.6059:	-122.782
FZ0609Zo	River mile	45.56675	-122.729

07R009Zo C00	RFS	largescale whole body SW8081A	4,4'-DDT	140	ug/kg	new
08R001SP C00	RFS	sculpin whole body SW8081A	4,4'-DDD	140 J	ug/kg	new
09R006Zo C00	RFS	northern pi whole body SW8081A	4,4'-DDE	140	ug/kg	new
02R015SP C00	RFS	sculpin whole body SW8081A	2,4'-DDT	150 P	ug/kg	new
06R004SP C00	RFS	sculpin whole body SW8081A	4,4'-DDT	150 J	ug/kg	new
06R004SP C00	RFS	sculpin whole body SW8081A	4,4'-DDD	150 J	ug/kg	new
07R009Zo C10	RFS	smallmouth whole body SW8081A	4,4'-DDT	150	ug/kg	new
08R010Zo C00	RFS	largescale whole body SW8081A	4,4'-DDD	150	ug/kg	new
FZ0609Zo C10	RFS	carp whole body SW8081A	4,4'-DDE	150	ug/kg	new
FZ0609Zo C20	FR2	carp whole body SW8081A	4,4'-DDE	150	ug/kg	new
04R023Zo C20	FR2	smallmouth whole body SW8081A	4,4'-DDE	160 D	ug/kg	new
08R032Zo C00	RFS	smallmouth whole body SW8081A	4,4'-DDE	160 PD	ug/kg	new
FZ0306Zo C30	FR3	carp fillet SW8081A	4,4'-DDE	160 J	ug/kg	new
08R001SP C00	RFS	sculpin whole body SW8081A	4,4'-DDE	170 J	ug/kg	new
03R014Zo C00	RFS	smallmouth whole body SW8081A	4,4'-DDE	180 D	ug/kg	new
07R003SP C00	RFS	sculpin whole body SW8081A	4,4'-DDE	180 D	ug/kg	new
09R006Zo C00	RFS	smallmouth whole body SW8081A	4,4'-DDE	180 D	ug/kg	new
07R009Zo C30	FR3	smallmouth whole body SW8081A	4,4'-DDE	190 D	ug/kg	new
03R014Zo C10	RFS	largescale whole body SW8081A	4,4'-DDE	200 D	ug/kg	new
07R006SD C00	RFS	clam body witho SW8081A	4,4'-DDD	210 D	ug/kg	new
07R009Zo C20	FR2	smallmouth whole body SW8081A	4,4'-DDT	210 D	ug/kg	new
08R010Zo C00	RFS	largescale whole body SW8081A	4,4'-DDE	210 D	ug/kg	new
09R006Zo C00	RFS	peamouth whole body SW8081A	4,4'-DDE	210 D	ug/kg	new
07R009Zo C10	RFS	smallmouth whole body SW8081A	4,4'-DDE	220 D	ug/kg	new
07R009Zo C20	FR2	smallmouth whole body SW8081A	4,4'-DDE	220 D	ug/kg	new
03R014Zo C10	RFS	northern pi whole body SW8081A	4,4'-DDE	240	ug/kg	new
03R014Zo C20	FR2	northern pi whole body SW8081A	4,4'-DDE	240 D	ug/kg	new
06R002SP C20	FR2	sculpin whole body SW8081A	4,4'-DDT	240	ug/kg	new
04R023Zo C10	RFS	smallmouth whole body SW8081A	4,4'-DDE	270 D	ug/kg	new
07R003SP C00	RFS	sculpin whole body SW8081A	4,4'-DDT	280 D	ug/kg	new
08R010Zo C00	RFS	largescale whole body SW8081A	4,4'-DDT	290 D	ug/kg	new
FZ0306Zo C20	FR2	carp whole body SW8081A	4,4'-DDE	300	ug/kg	new
06R004SP C00	RFS	sculpin whole body SW8081A	4,4'-DDE	330 J	ug/kg	new
08R010Zo C20	FR2	smallmouth whole body SW8081A	4,4'-DDT	330	ug/kg	new
07R006SP C00	RFS	sculpin whole body SW8081A	4,4'-DDD	350 D	ug/kg	new
05R006Zo C00	RFS	northern pi whole body SW8081A	4,4'-DDE	360 D	ug/kg	new
07R006SP C00	RFS	sculpin whole body SW8081A	2,4'-DDT	400 D	ug/kg	new
08R010Zo C10	RFS	smallmouth whole body SW8081A	4,4'-DDT	430	ug/kg	new

07R009Zo	River mile	45.57578	-122.744
08R001SP	River mile	45.55830	-122.726
09R006Zo	River mile	45.55705	-122.715
02R015SP	River mile	45.62923	-122.786
06R004SP	River mile	45.57613	-122.749
06R004SP	River mile	45.57613	-122.749
07R009Zo	River mile	45.57578	-122.744
08R010Zo	River mile	45.56669	-122.717
FZ0609Zo	River mile	45.56675	-122.729
FZ0609Zo	River mile	45.56675	-122.729
04R023Zo	River mile	45.60717	-122.783
08R032Zo	River mile	45.56571	-122.730
FZ0306Zo	River mile	45.6059:	-122.782
08R001SP	River mile	45.55830	-122.726
03R014Zo	River mile	45.61984	-122.791
07R003SP	River mile	45.56951	-122.740
09R006Zo	River mile	45.55705	-122.715
07R009Zo	River mile	45.57578	-122.744
03R014Zo	River mile	45.61984	-122.791
07R006SD	River mile	45.57163	-122.743
07R009Zo	River mile	45.57578	-122.744
08R010Zo	River mile	45.56669	-122.717
09R006Zo	River mile	45.55705	-122.715
07R009Zo	River mile	45.57578	-122.744
07R009Zo	River mile	45.57578	-122.744
03R014Zo	River mile	45.61984	-122.791
03R014Zo	River mile	45.61984	-122.791
06R002SP	River mile	45.58071	-122.747
04R023Zo	River mile	45.60717	-122.783
07R003SP	River mile	45.56951	-122.740
08R010Zo	River mile	45.56669	-122.717
FZ0306Zo	River mile	45.6059:	-122.782
06R004SP	River mile	45.57613	-122.749
08R010Zo	River mile	45.56669	-122.717
07R006SP	River mile	45.57155	-122.743
05R006Zo	River mile	45.59546	-122.775
07R006SP	River mile	45.57155	-122.743
08R010Zo	River mile	45.56669	-122.717

FZ0306Zo C20	FR2	carp	whole body	SW8081A	4,4'-DDT	530	ug/kg	new
07R009Zo C00	RFS	northern p	whole body	SW8081A	4,4'-DDE	560	ug/kg	new
07R006SP C00	RFS	sculpin	whole body	SW8081A	4,4'-DDE	800 D	ug/kg	new
07R006SP C00	RFS	sculpin	whole body	SW8081A	4,4'-DDT	2000 D	ug/kg	new
08R001SP C00	RFS	sculpin	whole body	SW8081A	2,4'-DDT	2700 D	ug/kg	new
08R001SP C00	RFS	sculpin	whole body	SW8081A	4,4'-DDT	14000 D	ug/kg	new

FZ0306Zo	River mile	45.6059:	-122.782
07R009Zo	River mile	45.57578	-122.744
07R006SP	River mile	45.57155	-122.743
07R006SP	River mile	45.57155	-122.743
08R001SP	River mile	45.55830	-122.726
08R001SP	River mile	45.55830	-122.726

a_chemtis: Sample	Lab Rep	Sample Ty	Species	Tissue	a_chemtis: CAS N	Chemical	Result (cor	Qualifier(s)	Units	Status
FZ0609Zo C20		FR2	black crappie	fillet	SW8082	Aroclor 1248	6.6		ug/kg	new
FZ0306Zo C10		RFS	black crappie	fillet	SW8082	Aroclor 1248	9.2 D		ug/kg	new
FZ0306Zo C20		FR2	black crappie	fillet	SW8082	Aroclor 1248	9.6 D		ug/kg	new
06R024Zo C00		RFS	smallmouth	whole body	SW8082	Aroclor 1232	12 PD		ug/kg	new
02R102SC C00		RFS	chinook	whole body	SW8082	Aroclor 1248	13 J		ug/kg	new
FZ0306Zo C10		RFS	black crappie	fillet	SW8082	Aroclor 1260	13 D		ug/kg	new
FZ0306Zo C20		FR2	black crappie	fillet	SW8082	Aroclor 1260	13 D		ug/kg	new
FZ0609Zo C20		FR2	black crappie	fillet	SW8082	Aroclor 1260	13		ug/kg	new
02R113SC C00		RFS	chinook	whole body	SW8082	Aroclor 1248	15 D		ug/kg	new
FZ0306Zo C20		FR2	brown bullhead	fillet	SW8082	Aroclor 1248	15 D		ug/kg	new
08R002CR C00		RFS	crayfish	whole body	SW8082	Aroclor 1260	16 D		ug/kg	new
FZ0609Zo C10		RFS	black crappie	fillet	SW8082	Aroclor 1248	16 D		ug/kg	new
FZ0609Zo C10		RFS	black crappie	fillet	SW8082	Aroclor 1260	16 D		ug/kg	new
02R113SC C00		RFS	chinook	whole body	SW8082	Aroclor 1260	17 D		ug/kg	new
02R102SC C00		RFS	chinook	whole body	SW8082	Aroclor 1260	17 J		ug/kg	new
FZ0306Zo C10		RFS	brown bullhead	fillet	SW8082	Aroclor 1248	17 D		ug/kg	new
05R006Zo C00		RFS	smallmouth	fillet	SW8082	Aroclor 1248	19 D		ug/kg	new
06R024Zo C00		RFS	smallmouth	fillet	SW8082	Aroclor 1260	19 D		ug/kg	new
06R024Zo C00		RFS	smallmouth	fillet	SW8082	Aroclor 1248	20 D		ug/kg	new
02R001CR C00		RFS	crayfish	whole body	SW8082	Aroclor 1260	21 P		ug/kg	new
03R125SC C00		RFS	chinook	whole body	SW8082	Aroclor 1260	22 D		ug/kg	new
04R126SC C00		RFS	chinook	whole body	SW8082	Aroclor 1260	22 D		ug/kg	new
FZ0306Zo C20		FR2	brown bullhead	fillet	SW8082	Aroclor 1260	22 D		ug/kg	new
07R003SD C00		RFS	clam	body with shell	SW8082	Aroclor 1260	23 PD		ug/kg	new
FZ0306Zo C10		RFS	brown bullhead	whole body	SW8082	Aroclor 1248	23 D		ug/kg	new
03R118SC C00		RFS	chinook	whole body	SW8082	Aroclor 1260	24 D		ug/kg	new
FZ0609Zo C10		RFS	brown bullhead	fillet	SW8082	Aroclor 1248	24 D		ug/kg	new
FZ0306Zo C30		FR3	brown bullhead	fillet	SW8082	Aroclor 1248	24 D		ug/kg	new
03R014Zo C00		RFS	smallmouth	fillet	SW8082	Aroclor 1248	26 D		ug/kg	new
05R003CR C00		RFS	crayfish	whole body	SW8082	Aroclor 1260	27		ug/kg	new
08R001SP C00		RFS	sculpin	whole body	SW8082	Aroclor 1248	27 D		ug/kg	new
05R006Zo C00		RFS	smallmouth	fillet	SW8082	Aroclor 1260	27 D		ug/kg	new
02R112SC C00		RFS	chinook	whole body	SW8082	Aroclor 1260	28 J		ug/kg	new
02R015CR C00		RFS	crayfish	whole body	SW8082	Aroclor 1260	28 P		ug/kg	new
03R118SC C00		RFS	chinook	whole body	SW8082	Aroclor 1248	30 D		ug/kg	new
08R032Zo C00		RFS	smallmouth	fillet	SW8082	Aroclor 1248	31 D		ug/kg	new
FZ0306Zo C30		FR3	brown bullhead	fillet	SW8082	Aroclor 1260	32 D		ug/kg	new

a_station	Station des	Latitude	Longitude	Field0
FZ0609Zo	River mile	45.56675	-122.729	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
06R024Zo	River mile	45.58374	-122.762	SW8082
02R102SC	River mile	45.63206	-122.794	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
02R113SC	River mile	45.62153	-122.795	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
08R002CR	River mile	45.56353	-122.732	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
02R113SC	River mile	45.62153	-122.795	SW8082
02R102SC	River mile	45.63206	-122.794	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
05R006Zo	River mile	45.59546	-122.775	SW8082
06R024Zo	River mile	45.58374	-122.762	SW8082
06R024Zo	River mile	45.58374	-122.762	SW8082
02R001CR	River mile	45.62824	-122.787	SW8082
03R125SC	River mile	45.60713	-122.788	SW8082
04R126SC	River mile	45.60057	-122.784	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
07R003SD	River mile	45.56951	-122.740	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
03R118SC	River mile	45.61581	-122.786	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
05R003CR	River mile	45.58763	-122.765	SW8082
08R001SP	River mile	45.55830	-122.726	SW8082
05R006Zo	River mile	45.59546	-122.775	SW8082
02R112SC	River mile	45.62447	-122.787	SW8082
02R015CR	River mile	45.62869	-122.787	SW8082
03R118SC	River mile	45.61581	-122.786	SW8082
08R032Zo	River mile	45.56571	-122.730	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082

03R014Zo C00	RFS	smallmouth fillet	SW8082	Aroclor 1260	34 D	ug/kg	new
09R006Zo C00	RFS	smallmouth fillet	SW8082	Aroclor 1248	34 D	ug/kg	new
03R125SC C00	RFS	chinook whole body	SW8082	Aroclor 1248	36 D	ug/kg	new
04R002SP C00	RFS	sculpin whole body	SW8082	Aroclor 1248	36 J	ug/kg	new
FZ0306Zo C10	RFS	brown bullhead fillet	SW8082	Aroclor 1260	36 D	ug/kg	new
FZ0306Zo C30	FR3	brown bullhead whole body	SW8082	Aroclor 1248	36 D	ug/kg	new
09R006Zo C00	RFS	smallmouth fillet	SW8082	Aroclor 1260	38 D	ug/kg	new
04R126SC C00	RFS	chinook whole body	SW8082	Aroclor 1248	39 D	ug/kg	new
07R003SD C00	RFS	clam body with shell	SW8082	Aroclor 1248	39 D	ug/kg	new
07R003CR C00	RFS	crayfish whole body	SW8082	Aroclor 1260	39 D	ug/kg	new
FZ0306Zo C10	RFS	black crappie whole body	SW8082	Aroclor 1248	39 D	ug/kg	new
FZ0609Zo C10	RFS	black crappie whole body	SW8082	Aroclor 1248	42 D	ug/kg	new
FZ0306Zo C20	FR2	black crappie whole body	SW8082	Aroclor 1248	42 D	ug/kg	new
08R003CR C00	RFS	crayfish whole body	SW8082	Aroclor 1260	43 D	ug/kg	new
FZ0306Zo C10	RFS	brown bullhead whole body	SW8082	Aroclor 1260	44 D	ug/kg	new
07R006CR C00	RFS	crayfish whole body	SW8082	Aroclor 1260	45 PD	ug/kg	new
05R006Zo C00	RFS	largescale whole body	SW8082	Aroclor 1248	45 D	ug/kg	new
07R003SP C00	RFS	sculpin whole body	SW8082	Aroclor 1248	46 D	ug/kg	new
FZ0306Zo C10	RFS	black crappie whole body	SW8082	Aroclor 1260	46 D	ug/kg	new
09R001CR C10	RFS	crayfish whole body	SW8082	Aroclor 1260	46 D	ug/kg	new
FZ0306Zo C20	FR2	black crappie whole body	SW8082	Aroclor 1260	48 D	ug/kg	new
04R004SP C00	RFS	sculpin whole body	SW8082	Aroclor 1248	49 J	ug/kg	new
09R001CR C20	FR2	crayfish whole body	SW8082	Aroclor 1260	49 D	ug/kg	new
05R006Zo C00	RFS	largescale whole body	SW8082	Aroclor 1260	50 D	ug/kg	new
03R032SP C00	RFS	sculpin whole body	SW8082	Aroclor 1248	52 D	ug/kg	new
03R002SP C10	RFS	sculpin whole body	SW8082	Aroclor 1248	54 J	ug/kg	new
08R001CR C00	RFS	crayfish whole body	SW8082	Aroclor 1260	59 D	ug/kg	new
05R020SP C00	RFS	sculpin whole body	SW8082	Aroclor 1248	59 J	ug/kg	new
FZ0306Zo C30	FR3	carp whole body	SW8082	Aroclor 1248	60 D	ug/kg	new
06R001SP C00	RFS	sculpin whole body	SW8082	Aroclor 1260	62 J	ug/kg	new
08R032Zo C00	RFS	smallmouth fillet	SW8082	Aroclor 1260	62 D	ug/kg	new
03R001SP C00	RFS	sculpin whole body	SW8082	Aroclor 1260	63 J	ug/kg	new
05R006Zo C00	RFS	pearmouth whole body	SW8082	Aroclor 1248	64 D	ug/kg	new
FZ0609Zo C30	FR3	brown bullhead whole body	SW8082	Aroclor 1248	64	ug/kg	new
05R001SP C00	RFS	sculpin whole body	SW8082	Aroclor 1260	66 J	ug/kg	new
08R002SP C00	RFS	sculpin whole body	SW8082	Aroclor 1248	67 D	ug/kg	new
FZ0609Zo C10	RFS	black crappie whole body	SW8082	Aroclor 1260	67 D	ug/kg	new
03R002SP C10	RFS	sculpin whole body	SW8082	Aroclor 1260	67 J	ug/kg	new

03R014Zo	River mile	45.61984	-122.791	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
03R125SC	River mile	45.60713	-122.788	SW8082
04R002SP	River mile	45.60083	-122.773	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
04R126SC	River mile	45.60057	-122.784	SW8082
07R003SD	River mile	45.56951	-122.740	SW8082
07R003CR	River mile	45.56941	-122.740	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
08R003CR	River mile	45.56857	-122.726	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
07R006CR	River mile	45.57155	-122.743	SW8082
05R006Zo	River mile	45.59546	-122.775	SW8082
07R003SP	River mile	45.56951	-122.740	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
09R001CR	River mile	45.56158	-122.708	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
04R004SP	River mile	45.59751	-122.781	SW8082
09R001CR	River mile	45.56158	-122.708	SW8082
05R006Zo	River mile	45.59546	-122.775	SW8082
03R032SP	River mile	45.60898	-122.789	SW8082
03R002SP	River mile	45.61321	-122.792	SW8082
08R001CR	River mile	45.55840	-122.726	SW8082
05R020SP	River mile	45.58544	-122.768	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
06R001SP	River mile	45.58179	-122.764	SW8082
08R032Zo	River mile	45.56571	-122.730	SW8082
03R001SP	River mile	45.61893	-122.787	SW8082
05R006Zo	River mile	45.59546	-122.775	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
05R001SP	River mile	45.59295	-122.770	SW8082
08R002SP	River mile	45.56449	-122.734	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
03R002SP	River mile	45.61321	-122.792	SW8082

03R014Zo C00	RFS	peamouth	whole body SW8082	Aroclor 1260	68 D	ug/kg	new
08R010Zo C00	RFS	peamouth	whole body SW8082	Aroclor 1248	69 D	ug/kg	new
08R010Zo C00	RFS	peamouth	whole body SW8082	Aroclor 1260	69 D	ug/kg	new
02R112SC C00	RFS	chinook	whole body SW8082	Aroclor 1248	72 J	ug/kg	new
05R020SP C00	RFS	sculpin	whole body SW8082	Aroclor 1260	73 J	ug/kg	new
04R004SP C00	RFS	sculpin	whole body SW8082	Aroclor 1260	74 J	ug/kg	new
06R002SD C00	RFS	clam	body witho SW8082	Aroclor 1260	77 D	ug/kg	new
03R014Zo C00	RFS	peamouth	whole body SW8082	Aroclor 1248	79 D	ug/kg	new
03R001SP C00	RFS	sculpin	whole body SW8082	Aroclor 1248	81 J	ug/kg	new
03R004SP C10	RFS	sculpin	whole body SW8082	Aroclor 1260	84 D	ug/kg	new
03R002SP C20	FR2	sculpin	whole body SW8082	Aroclor 1260	84 J	ug/kg	new
03R004SP C20	FR2	sculpin	whole body SW8082	Aroclor 1260	85 D	ug/kg	new
03R002SP C20	FR2	sculpin	whole body SW8082	Aroclor 1248	86 J	ug/kg	new
FZ0306Zo C30	FR3	brown bullt	whole body SW8082	Aroclor 1260	89 D	ug/kg	new
08R002SP C00	RFS	sculpin	whole body SW8082	Aroclor 1260	90 D	ug/kg	new
FZ0306Zo C20	FR2	brown bullt	whole body SW8082	Aroclor 1260	90 D	ug/kg	new
07R009Zo C20	FR2	smallmout	whole body SW8082	Aroclor 1260	90 P	ug/kg	new
FZ0609Zo C10	RFS	brown bullt	fillet SW8082	Aroclor 1260	93 D	ug/kg	new
04R003SP C00	RFS	sculpin	whole body SW8082	Aroclor 1260	96 J	ug/kg	new
04R003SP C00	RFS	sculpin	whole body SW8082	Aroclor 1248	100 J	ug/kg	new
09R002CR C00	RFS	crayfish	whole body SW8082	Aroclor 1260	110 D	ug/kg	new
05R006Zo C00	RFS	peamouth	whole body SW8082	Aroclor 1260	110 D	ug/kg	new
FZ0306Zo C10	RFS	carp	whole body SW8082	Aroclor 1248	110 D	ug/kg	new
FZ0609Zo C20	FR2	black crap	whole body SW8082	Aroclor 1248	110 D	ug/kg	new
FZ0306Zo C20	FR2	carp	fillet SW8082	Aroclor 1248	110	ug/kg	new
07R006SD C00	RFS	clam	body witho SW8082	Aroclor 1248	120 D	ug/kg	new
03R032SP C00	RFS	sculpin	whole body SW8082	Aroclor 1260	120 D	ug/kg	new
04R002SP C00	RFS	sculpin	whole body SW8082	Aroclor 1260	120 J	ug/kg	new
05R006Zo C00	RFS	smallmout	whole body SW8082	Aroclor 1248	120 D	ug/kg	new
03R005SP C00	RFS	sculpin	whole body SW8082	Aroclor 1248	130 D	ug/kg	new
05R001SP C00	RFS	sculpin	whole body SW8082	Aroclor 1248	130 J	ug/kg	new
FZ0609Zo C20	FR2	brown bullt	whole body SW8082	Aroclor 1260	130 D	ug/kg	new
09R006Zo C00	RFS	peamouth	whole body SW8082	Aroclor 1260	140 D	ug/kg	new
07R006SP C00	RFS	sculpin	whole body SW8082	Aroclor 1260	140 J	ug/kg	new
FZ0609Zo C20	FR2	black crap	whole body SW8082	Aroclor 1260	140 D	ug/kg	new
09R006Zo C00	RFS	peamouth	whole body SW8082	Aroclor 1248	150 D	ug/kg	new
03R014Zo C10	RFS	northern pi	whole body SW8082	Aroclor 1248	150 D	ug/kg	new
03R014Zo C20	FR2	northern pi	whole body SW8082	Aroclor 1248	150 D	ug/kg	new

03R014Zo	River mile	45.61984	-122.791	SW8082
08R010Zo	River mile	45.56669	-122.717	SW8082
08R010Zo	River mile	45.56669	-122.717	SW8082
02R112SC	River mile	45.62447	-122.787	SW8082
05R020SP	River mile	45.58544	-122.768	SW8082
04R004SP	River mile	45.59751	-122.781	SW8082
06R002SD	River mile	45.58073	-122.746	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
03R001SP	River mile	45.61893	-122.787	SW8082
03R004SP	River mile	45.60659	-122.780	SW8082
03R002SP	River mile	45.61321	-122.792	SW8082
03R004SP	River mile	45.60659	-122.780	SW8082
03R002SP	River mile	45.61321	-122.792	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
08R002SP	River mile	45.56449	-122.734	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
07R009Zo	River mile	45.57578	-122.744	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
04R003SP	River mile	45.60395	-122.773	SW8082
04R003SP	River mile	45.60395	-122.773	SW8082
09R002CR	River mile	45.54955	-122.704	SW8082
05R006Zo	River mile	45.59546	-122.775	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
07R006SD	River mile	45.57163	-122.743	SW8082
03R032SP	River mile	45.60898	-122.789	SW8082
04R002SP	River mile	45.60083	-122.773	SW8082
05R006Zo	River mile	45.59546	-122.775	SW8082
03R005SP	River mile	45.61100	-122.775	SW8082
05R001SP	River mile	45.59295	-122.770	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
07R006SP	River mile	45.57155	-122.743	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082

05R006Zo C00	RFS	northern pi whole body SW8082	Aroclor 1248	160 D	ug/kg	new
08R001SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	160 D	ug/kg	new
FZ0609Zo C20	FR2	carp fillet SW8082	Aroclor 1248	160	ug/kg	new
09R006Zo C00	RFS	northern pi whole body SW8082	Aroclor 1248	170 D	ug/kg	new
03R014Zo C20	FR2	largescale whole body SW8082	Aroclor 1248	170 D	ug/kg	new
FZ0306Zo C30	FR3	carp whole body SW8082	Aroclor 1260	170 D	ug/kg	new
07R003SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	180 J	ug/kg	new
FZ0306Zo C10	RFS	carp fillet SW8082	Aroclor 1248	180 D	ug/kg	new
03R014Zo C20	FR2	largescale whole body SW8082	Aroclor 1260	180 D	ug/kg	new
03R034SP C00	RFS	sculpin whole body SW8082	Aroclor 1248	190 D	ug/kg	new
FZ0306Zo C10	RFS	carp whole body SW8082	Aroclor 1260	190 D	ug/kg	new
08R032Zo C00	RFS	smallmouth whole body SW8082	Aroclor 1248	220 J	ug/kg	new
03R014Zo C20	FR2	northern pi whole body SW8082	Aroclor 1260	220 D	ug/kg	new
03R004SP C20	FR2	sculpin whole body SW8082	Aroclor 1248	220 D	ug/kg	new
04R023Zo C20	FR2	smallmouth whole body SW8082	Aroclor 1248	220 D	ug/kg	new
03R005SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	230 D	ug/kg	new
FZ0609Zo C20	FR2	carp fillet SW8082	Aroclor 1260	230 P	ug/kg	new
06R024Zo C00	RFS	smallmouth whole body SW8082	Aroclor 1260	240 D	ug/kg	new
03R004SP C10	RFS	sculpin whole body SW8082	Aroclor 1248	240 D	ug/kg	new
FZ0306Zo C20	FR2	carp fillet SW8082	Aroclor 1260	240	ug/kg	new
04R023Zo C20	FR2	smallmouth whole body SW8082	Aroclor 1260	250 D	ug/kg	new
FZ0609Zo C30	FR3	brown bullhead whole body SW8082	Aroclor 1260	250 J	ug/kg	new
04R023Zo C30	FR3	smallmouth whole body SW8082	Aroclor 1248	250 D	ug/kg	new
05R006Zo C00	RFS	smallmouth whole body SW8082	Aroclor 1260	270 PD	ug/kg	new
FZ0609Zo C20	FR2	carp whole body SW8082	Aroclor 1248	270 D	ug/kg	new
03R005CR C00	RFS	crayfish whole body SW8082	Aroclor 1260	280 D	ug/kg	new
05R006Zo C00	RFS	northern pi whole body SW8082	Aroclor 1260	280 D	ug/kg	new
07R006SP C00	RFS	sculpin whole body SW8082	Aroclor 1248	290 D	ug/kg	new
09R006Zo C00	RFS	largescale whole body SW8082	Aroclor 1248	300 D	ug/kg	new
03R034SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	310 D	ug/kg	new
08R010Zo C00	RFS	largescale whole body SW8082	Aroclor 1260	320 D	ug/kg	new
03R014Zo C00	RFS	smallmouth whole body SW8082	Aroclor 1260	320 D	ug/kg	new
09R006Zo C00	RFS	smallmouth whole body SW8082	Aroclor 1248	340 J	ug/kg	new
04R023Zo C30	FR3	smallmouth whole body SW8082	Aroclor 1260	340 PD	ug/kg	new
07R009Zo C30	FR3	smallmouth whole body SW8082	Aroclor 1260	370 J	ug/kg	new
06R004SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	400 J	ug/kg	new
04R023Zo C10	RFS	smallmouth whole body SW8082	Aroclor 1248	400 D	ug/kg	new
FZ0306Zo C30	FR3	carp fillet SW8082	Aroclor 1248	410 D	ug/kg	new

05R006Zo	River mile	45.59546	-122.775	SW8082
08R001SP	River mile	45.55830	-122.726	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
07R003SP	River mile	45.56951	-122.740	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
03R034SP	River mile	45.61164	-122.781	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
08R032Zo	River mile	45.56571	-122.730	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
03R004SP	River mile	45.60659	-122.780	SW8082
04R023Zo	River mile	45.60717	-122.783	SW8082
03R005SP	River mile	45.61100	-122.775	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
06R024Zo	River mile	45.58374	-122.762	SW8082
03R004SP	River mile	45.60659	-122.780	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
04R023Zo	River mile	45.60717	-122.783	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
04R023Zo	River mile	45.60717	-122.783	SW8082
05R006Zo	River mile	45.59546	-122.775	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
03R005CR	River mile	45.61114	-122.775	SW8082
05R006Zo	River mile	45.59546	-122.775	SW8082
07R006SP	River mile	45.57155	-122.743	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
03R034SP	River mile	45.61164	-122.781	SW8082
08R010Zo	River mile	45.56669	-122.717	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
04R023Zo	River mile	45.60717	-122.783	SW8082
07R009Zo	River mile	45.57578	-122.744	SW8082
06R004SP	River mile	45.57613	-122.749	SW8082
04R023Zo	River mile	45.60717	-122.783	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082

07R009Zo C30	FR3	smallmout whole body SW8082	Aroclor 1248	410 J	ug/kg	new
09R006Zo C00	RFS	largescale whole body SW8082	Aroclor 1260	430 D	ug/kg	new
02R001SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	430 J	ug/kg	new
07R009Zo C10	RFS	smallmout whole body SW8082	Aroclor 1260	430 D	ug/kg	new
03R014Zo C00	RFS	smallmout whole body SW8082	Aroclor 1248	460 D	ug/kg	new
08R003SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	480 J	ug/kg	new
FZ0306Zo C10	RFS	carp fillet SW8082	Aroclor 1260	490 D	ug/kg	new
09R006Zo C00	RFS	smallmout whole body SW8082	Aroclor 1260	500 J	ug/kg	new
09R001SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	510 J	ug/kg	new
03R014Zo C10	RFS	northern pi whole body SW8082	Aroclor 1260	560 D	ug/kg	new
FZ0609Zo C30	FR3	brown bull fillet SW8082	Aroclor 1260	560 D	ug/kg	new
06R002SP C10	RFS	sculpin whole body SW8082	Aroclor 1260	600 J	ug/kg	new
03R014Zo C10	RFS	largescale whole body SW8082	Aroclor 1260	620 J	ug/kg	new
FZ0306Zo C30	FR3	carp fillet SW8082	Aroclor 1260	650 D	ug/kg	new
08R032Zo C00	RFS	smallmout whole body SW8082	Aroclor 1260	660 J	ug/kg	new
08R010Zo C00	RFS	northern pi whole body SW8082	Aroclor 1260	670 D	ug/kg	new
09R002SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	670 D	ug/kg	new
FZ0609Zo C10	RFS	carp whole body SW8082	Aroclor 1260	690 D	ug/kg	new
FZ0609Zo C20	FR2	carp whole body SW8082	Aroclor 1260	740 D	ug/kg	new
02R015SP C00	RFS	sculpin whole body SW8082	Aroclor 1260	760 D	ug/kg	new
09R006Zo C00	RFS	northern pi whole body SW8082	Aroclor 1260	840 D	ug/kg	new
04R023Zo C10	RFS	smallmout whole body SW8082	Aroclor 1260	880 PD	ug/kg	new
08R010Zo C30	FR3	smallmout whole body SW8082	Aroclor 1260	1000 D	ug/kg	new
FZ0609Zo C30	FR3	carp whole body SW8082	Aroclor 1260	1100 D	ug/kg	new
FZ0609Zo C10	RFS	carp fillet SW8082	Aroclor 1260	1200 J	ug/kg	new
FZ0609Zo C30	FR3	carp fillet SW8082	Aroclor 1260	1200 J	ug/kg	new
FZ0609Zo C20	FR2	brown bull fillet SW8082	Aroclor 1260	1300 J	ug/kg	new
07R009Zo C00	RFS	largescale whole body SW8082	Aroclor 1260	1400 D	ug/kg	new
03R014Zo C10	RFS	largescale whole body SW8082	Aroclor 1248	1400 J	ug/kg	new
FZ0609Zo C10	RFS	brown bull whole body SW8082	Aroclor 1260	1700 D	ug/kg	new
07R009Zo C00	RFS	northern pi whole body SW8082	Aroclor 1260	1800 D	ug/kg	new
02R001SP C00	RFS	sculpin whole body SW8082	Aroclor 1248	1900 J	ug/kg	new
06R002SP C20	FR2	sculpin whole body SW8082	Aroclor 1260	2300 D	ug/kg	new
02R015SP C00	RFS	sculpin whole body SW8082	Aroclor 1248	2600 D	ug/kg	new
08R010Zo C20	FR2	smallmout whole body SW8082	Aroclor 1260	3300 J	ug/kg	new
08R010Zo C10	RFS	smallmout whole body SW8082	Aroclor 1260	4500 J	ug/kg	new
FZ0306Zo C20	FR2	carp whole body SW8082	Aroclor 1260	6500 J	ug/kg	new

07R009Zo	River mile	45.57578	-122.744	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
02R001SP	River mile	45.62791	-122.787	SW8082
07R009Zo	River mile	45.57578	-122.744	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
08R003SP	River mile	45.56689	-122.724	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
09R001SP	River mile	45.56189	-122.709	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
06R002SP	River mile	45.58071	-122.747	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082
08R032Zo	River mile	45.56571	-122.730	SW8082
08R010Zo	River mile	45.56669	-122.717	SW8082
09R002SP	River mile	45.54909	-122.705	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
02R015SP	River mile	45.62923	-122.786	SW8082
09R006Zo	River mile	45.55705	-122.715	SW8082
04R023Zo	River mile	45.60717	-122.783	SW8082
08R010Zo	River mile	45.56669	-122.717	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
07R009Zo	River mile	45.57578	-122.744	SW8082
03R014Zo	River mile	45.61984	-122.791	SW8082
FZ0609Zo	River mile	45.56675	-122.729	SW8082
07R009Zo	River mile	45.57578	-122.744	SW8082
02R001SP	River mile	45.62791	-122.787	SW8082
06R002SP	River mile	45.58071	-122.747	SW8082
02R015SP	River mile	45.62923	-122.786	SW8082
08R010Zo	River mile	45.56669	-122.717	SW8082
08R010Zo	River mile	45.56669	-122.717	SW8082
FZ0306Zo	River mile	45.6059:	-122.782	SW8082